

**CLAIMS:**

1. A vacuum packaging method that uses a rotary type vacuum processing device, said rotary type vacuum processing device being comprised of:

a rotary table, and

a plurality of vacuum chambers disposed at equal intervals on a circumference of said rotary table, wherein

each one of said vacuum chambers comprises:

a main body that is fastened to said rotary table, and

a cover that is caused to open and close with respect to said main body;

each vacuum chamber is caused to be placed in a vacuum state or in an atmospheric pressure state with a predetermined timing; and

grippers that suspend filled bags in a state in which bag mouths of said filled bags face upward are disposed on said main body,

wherein said vacuum packaging method comprises the steps of, during rotation of said rotary table,

accommodating filled bags inside said vacuum chambers,

performing a degassing treatment by placing interiors of said vacuum chambers in a vacuum state so that a vacuum is caused to act on said filled bags,

placing said vacuum chambers back to an atmospheric pressure state, and

opening said cover; and

the further steps of:

taking out said filled bags, which have been subjected to said degassing treatment, from said vacuum chambers, and

conveying said filled bags to an ultrasonic sealing device disposed near said rotary type vacuum processing device, where bag mouths of said filled bags are ultrasonically sealed by means of said ultrasonic sealing device.

2. The vacuum packaging method according to Claim 1, wherein said bag mouths are placed under tension by being pulled from both edges thereof prior to performing ultrasonic sealing.

3. A vacuum packaging method that uses a rotary type vacuum processing device, said rotary type vacuum processing device being comprised of:

an intermittently rotating table, and

a plurality of vacuum chambers disposed at equal intervals on a circumference of said intermittently rotating table, wherein

each one of said vacuum chambers comprises:

a main body that is fastened to said intermittently rotating table,

and

a cover that is caused to open and close with respect to said main body,

each vacuum chamber is caused to be placed in a vacuum state or in an atmospheric pressure state with a predetermined timing,

grippers that suspend filled bags in a state in which bag mouths of said filled bags face upward are disposed on said main body, and

an anvil which forms a part of an ultrasonic sealing device is disposed above said grippers disposed on said main body,

wherein said vacuum packaging method comprises the steps of, during repeated rotation and stopping of said rotary table:

accommodating filled bags inside said vacuum chambers,

performing a degassing treatment by placing interiors of said vacuum chambers in a vacuum state so that a vacuum is caused to act on said filled bags,

placing said vacuum chambers back to an atmospheric pressure state,

opening said cover, and

causing a horn element of an ultrasonic sealing device disposed near said rotary type vacuum processing device so as to hold the bag mouth of the filled bag between the horn element and the anvil and to perform ultrasonic sealing; and

the further step of:

releasing said grippers so that sealed filled bags are taken out of said vacuum chambers.

4. The vacuum packaging method according to any one of claims 1 through 3, wherein said bag mouths are temporarily sealed following said degassing treatment so that a degassed state inside said filled bags is maintained when said vacuum chambers are placed back to said atmospheric pressure state.

5. The vacuum packaging method according to Claim 4, wherein a sealing position of said ultrasonic sealing is located below said sealing position of temporary sealing.

6. A vacuum packaging machine equipped with an ultrasonic sealing device, said vacuum packaging machine comprising:

(1) a rotary type vacuum processing device that is comprised of:

an intermittently rotating table, and

a plurality of vacuum chambers disposed at equal intervals on a circumference of said intermittently rotating table, wherein

each one of said vacuum chambers comprises:

a main body that is fastened to said intermittently rotating table,

and

a cover that is caused to open and close with respect to said main body;

each vacuum chamber is caused to be placed in a vacuum state or in an atmospheric pressure state with a predetermined timing; and

grippers that suspend filled bags in a state in which bag mouths of said filled bags face upward are disposed on said main body,

wherein said rotary type vacuum processing device, during repeated rotation and stopping of said intermittently rotating table,

accommodates filled bags inside said vacuum chambers, and

performs a degassing treatment by placing interiors of said vacuum chambers in a vacuum state so that a vacuum is caused to act on said filled bags;

(2) an ultrasonic sealing device which is disposed near said rotary type vacuum processing device; and

(3) a bag transporting device which takes out said filled bags that have been subjected to said degassing treatment from said vacuum chambers stopped at a take-out position and then transports said filled bags to a sealing position of said ultrasonic sealing device.

7. The vacuum packaging machine equipped with an ultrasonic sealing device according to Claim 6, wherein said bag transporting device comprises:

a first transporting device that takes out said filled bags, which have been subjected to said degassing treatment, from said vacuum chambers stopped at said take-out position and transports said filled bags to a predetermined position, and

a second transporting device that receives said filled bags from said first transporting device at said predetermined position and transports said filled bags to said sealing position.

8. The vacuum packaging machine equipped with an ultrasonic sealing device according to Claim 7, wherein said second transporting device is equipped with a pair of grippers that grip both side edges of said filled bags, a spacing between said grippers being caused to be widened and narrowed.

9. The vacuum packaging machine equipped with an ultrasonic sealing device according to any one of claims 6 through 8, wherein a temporary sealing device that holds and temporarily seals said bag mouths is disposed inside each one of said vacuum chambers.

10. A vacuum packaging machine equipped with an ultrasonic sealing device, said vacuum packaging machine comprising:

(1) a rotary type vacuum processing device that is comprised of:  
an intermittently rotating table, and

a plurality of vacuum chambers disposed at equal intervals on a circumference of said intermittently rotating table, wherein

each one of said vacuum chambers comprises:

a main body that is fastened to said intermittently rotating table,

and

a cover that is caused to open and close with respect to said main body;

each vacuum chamber is caused to be placed in a vacuum state or in an atmospheric pressure state with a predetermined timing; and

grippers that suspend filled bags in a state in which bag mouths of said filled bags face upward are disposed on said main body,

wherein said rotary type vacuum processing device, during repeated rotation and stopping of said intermittently rotating table,

accommodates filled bags inside said vacuum chambers, and

performs a degassing treatment by placing interiors of said vacuum chambers in a vacuum state so that a vacuum is caused to act on said filled bags; and

(2) an ultrasonic sealing device which is disposed near a cover opening position of said rotary type vacuum processing device, said ultrasonic sealing device having an anvil which is provided above said grippers of said main body of each one of said vacuum chambers, wherein a horn element of said ultrasonic sealing device is caused to advance toward and withdraw from said anvil provided in each one of said vacuum chambers stopped at said cover opening position, and said horn element performs ultrasonic sealing by press-holding said bag mouths against said anvil.

11. The vacuum packaging machine equipped with an ultrasonic sealing device according to Claim 10, wherein a temporary sealing device which holds and temporarily seals said bag mouths is disposed inside each one of said vacuum chambers.

12. The vacuum packaging machine equipped with an ultrasonic sealing device according to Claim 11, wherein said anvil is provided below said temporary sealing devices.